lp6dutil Utility

for LightPulse® Adapters

User Manual

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Emulex, 3333 Susan Street
Costa Mesa, CA 92626

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Introduction

The lp6dutil utility for DOS includes options for doing routine diagnostic tasks and for viewing a variety of information for the HBA.

All lp6dutil tasks can be performed using the graphical user interface (GUI) screen menus. All screens require navigation and selection using the keyboard.

Some lp6dutil tasks can be performed using the command line. These include downloading images, setting up and running diagnostics.

Information in view-only screens is typically presented in hexadecimal format.

Start lp6dutil

Note: You cannot start lp6dutil at the DOS prompt in Windows.

1. Boot up the system with DOS.
2. From the directory where the lp6dutil.exe file resides, enter the following command:

   `lp6dutil`

Note: For debugging, activate the lp6dutil utility without restarting the adapter by entering the following command: lp6dutil /nr

An Introduction screen appears. A menu bar is near the top. The lp> prompt is near the bottom.

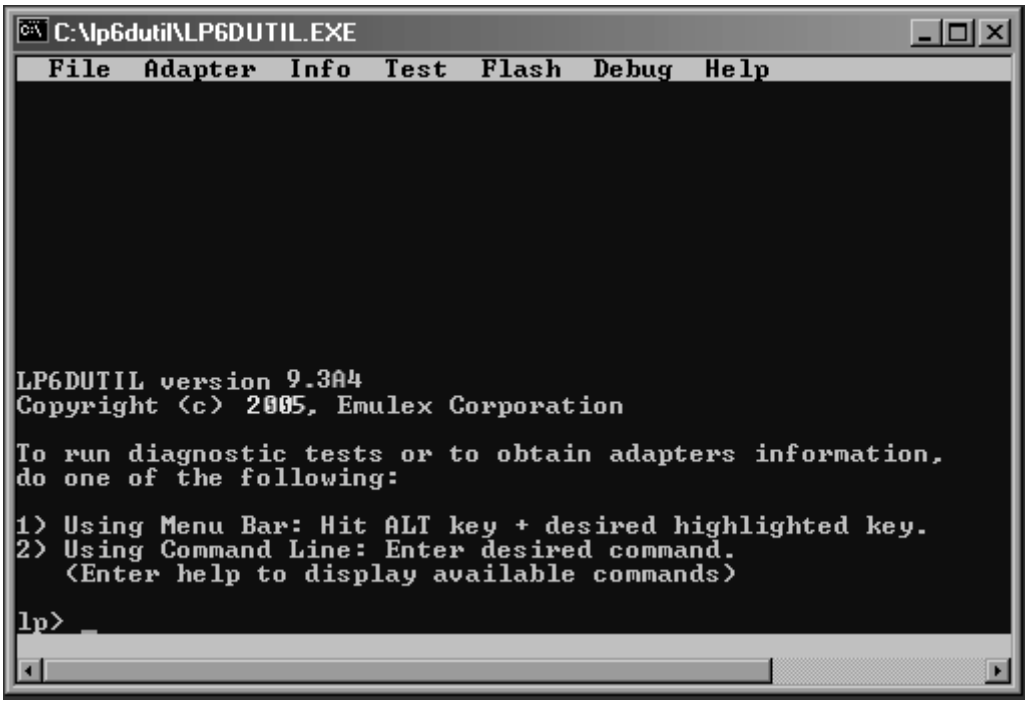
C:\lp6dutil\LP6DUTIL.EXE
File Adapter Info Test Flash Debug Help
LP6DUTIL version 9.3A4
Copyright (c) 2005, Emulex Corporation
To run diagnostic tests or to obtain adapters information,
do one of the following:
1) Using Menu Bar: Hit ALT key + desired highlighted key.
2) Using Command Line: Enter desired command.
(Enter help to display available commands)
lp>

Figure 1: Introduction Screen

Use the Menu Bar

- To select a function, press and hold **<Alt>** and press the letter that is highlighted in the function title. A menu is displayed. For example, if you hold down **<Alt>** and press **<L>**, the **Flash** menu is displayed.To move through items within a menu, press the up and down arrow keys. You can also press the letter that is highlighted for that menu item. In the following example, press **<D>** to open the **Download Image** screen.

Figure 2: Flash Menu, Download Selected

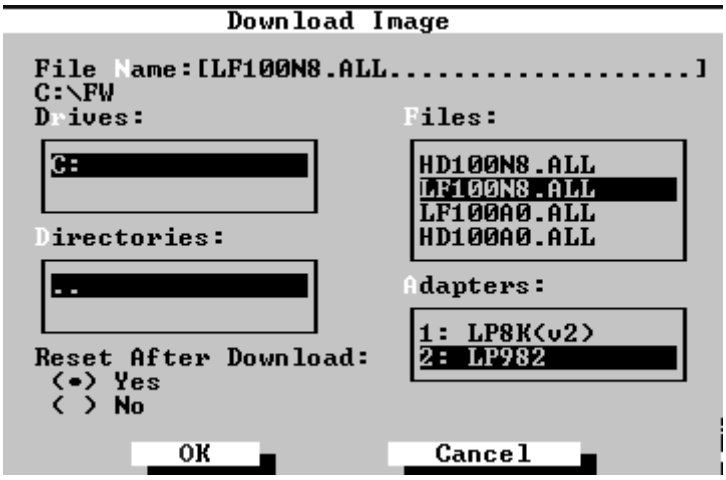

Figure 3: Download Image Screen

Navigation Tips

- To move from box to box (area to area) within a screen, tab to move to the right, or hold down **<Shift>** and tab to move to the left. If the box title has a highlighted letter, hold down **<Alt>** and press the letter to move into the box.
- To move through items within a box or area, press the up and down arrow keys.
    - ( ) parentheses next to an item indicate that you must select one choice. Typically, a default option is selected. Press the up and down arrow keys to move through choices if you want to select a different choice.
    - [ ] brackets near or next to an item indicate an option. Tab to the item list. Press the spacebar to select or clear an item. Sometimes optional choices are not active unless a specific required choice is selected.
- Boxes within various screens may contain a vertical scroll bar on the right side of the box. This indicates that the box contains additional information that exceeds the display capabilities of the box. Click on the scroll bar to view additional information or selections.
- To select a button, hold down **<Alt>** and press the letter in red, or tab to the button and press **<Enter>**. If an option does not contain a red letter, tab to that button and press **<Enter>**.

Note: Press **<Enter>** after selecting an item in a screen. If you do not press **<Enter>**, the selection is not made.

- Close a screen within lp6dutil by pressing **<Esc>**.

Use the Command Line

At the lp> prompt, enter the command you want with the correct syntax, then press **<Enter>**.

- To view all available help commands, type:

  ```
  help
  ```

- To view the syntax for a command, enter help followed by the command name.For example, type:

  ```
  help download
  ```

  The syntax for the download command is displayed:

  Syntax: download <n=adapter> <i=imagepath>

  or

  Syntax: download <a=adaptertype> <i=imagepath>

- The syntax requires one space between the command name and the first argument, and a space between additional arguments.
- There is no space before or after the equal sign within an argument.
- To exit lp6dutil, type:

  ```
  exit
  ```

  The DOS prompt is displayed.

Commands and Syntax Reference Table

Note: Internal loopback and static random-access memory (SRAM) tests are not supported for the LP1005DC-CM2.

Table 1: Commands and Syntax

Command	Syntax	Description
@	@ <command-file>	Executes commands in a script file. Follow the @ sign with the pathname of the script file. Example: @a:\script1.txt
enableboot	enableboot <n=adapter> <i=index>	Enables the selected boot code on the adapter specified by its number.
logfile	logfile <l=filename>	Creates a log file using the specified file name.
exit	exit	Terminates the lp6dutil session and passes control to DOS.
jumper	jumper <n=adapter> <s=selection> <r=region>	Changes the state of the adapter soft jumpers, which can be used in place of the physical jumpers on the adapter. s=0 for none, 1 for hardware default, 2 for soft jumper. Alternate regions, r= 6 or r=7 (used only for selection 2, soft jumper).
pciloopback	pciloopback <n=adapter/all> <r=repeat-count> <o=option>	Runs the pciloopback test. You can run this test on one adapter or on all HBAs in the system. Options: o=1 for stop, o=2 for repeat, and o=3 for ignore.
disableboot	disableboot <n=adapter>	Disables the current boot code on the adapter specified by its number.
extloopback	extloopback <n=adapter/all> <r=repeat-count> <o=option>	Runs the external loopback test. The loopback plug must be installed. You can run this test on one adapter or on all HBAs in the system. Options: o=1 for stop, o=2 for repeat, and o=3 for ignore.
listhba	listhba	Lists the HBAs that are installed in the system (adapter #, WWN, functional FW, adapter type and mailbox error (if any).
reset	reset <n=adapter/all> <s=custom/ standard reset>	Resets one or all HBAs in the system. s=1 skips POST during a restart, s=0 performs a standard reset.
repeat	repeat <script>	This command is used at the end of a script file to repeat a series of commands from the beginning of the script file.
download	download <a=adapter name> <i=firmware image filename>	Downloads the specified firmware image to all HBAs of the same name.
download	download <n=adapter number> <i=firmware image filename>	Downloads the specified firmware image file to the one adapter, as specified by its number.

Table 1: Commands and Syntax (Continued)

Command	Syntax	Description
help	help <command>	Lists the syntax for the specified command.
listboot	listboot <n=adapter>	Lists boot code versions with indices (base 1) that are currently loaded in the flash of the adapter specified by its number.
vpd	vpd n=<adapter number>	This command displays the VPD contents of the adapter specified by its number.

Reset the Adapter

1. Select the **Adapter** menu.

Figure 4: Adapter Menu, Reset Selected

2. Press **<R>**. The Reset Adapter screen is displayed.

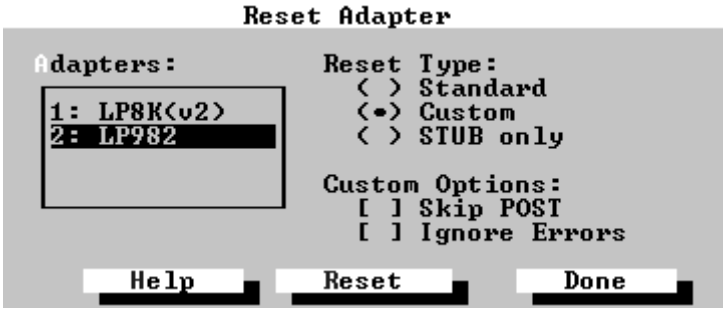

Figure 5: Reset Adapter Screen

3. Select the adapter to reset. The default is adapter #1.
4. Specify the type of reset:
   - Standard is a normal reset.
   - Custom allows you to reset the adapter with one or both of the custom options selected.
   - STUB resets only the functional firmware.

   If you select a custom or STUB only reset, the Custom Options area becomes active and you can specify whether to skip POST or whether to ignore errors. Select one or both options by pressing the spacebar to select. Press the spacebar again to clear.
5. Select **Reset**. "Resetting" is displayed briefly.
6. Select **Done**. The screen closes.

Perform a Warm Start

1. Select the **Adapter** menu.

Figure 6: Adapter Menu, Warmstart/NoRam Selected

2. Press **<W>**. The Warmstart Adapter screen is displayed.

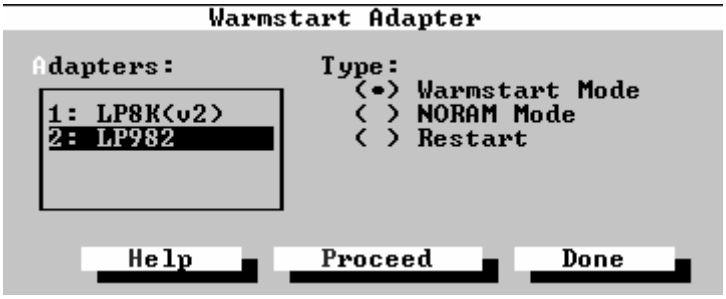

Figure 7: Warmstart Adapter Screen

3. Specify a type of warm start:
    - Warmstart Mode accesses the RAM.
    - NORAM Mode does not access RAM.
    - Restart causes the adapter to start in warm start mode and then restart normally.
4. Proceed to initiate the warm start.
5. Select **Done** to close the screen.

Exit the lp6dutil Utility

To exit lp6dutil:

1. Select the **File** menu.

Figure 8: File Menu, Exit Selected

2. Press **<X>**. The lp6dutil session is terminated and the DOS prompt appears.

View Adapter Information

View Adapter Parameters

To display a list of HBAs installed in the system, including adapter model number and device ID, from the Adapter menu:

1. Select the **Adapter** menu.

Figure 9: Adapter Menu, Display Selected

2. Press **<D>**. The Installed Adapter Parameters screen is displayed.

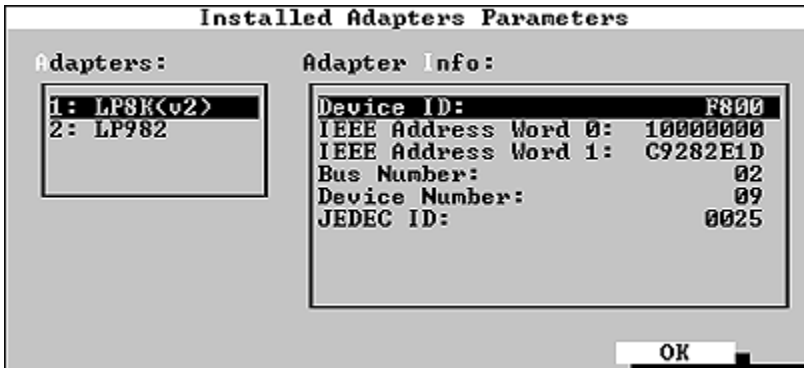

Figure 10: Installed Adapter Parameters Screen

3. Select an HBA in the Adapters box. Information is displayed in the Adapter Info box. This information is view-only.
4. Select **OK** to close the screen.

Note: A HS20 Blade can have one adapter and two ports (appears as a 1005DC HBA). A HS40 Blade can have two HBAs or two ports (appears as two 1005DC HBAs).

View DC Bridge Information

1. Select the **Adapter** menu.

Figure 11: Adapter Menu, DC Bridges Selected

2. Press **<B>**. The Dual Channel Bridges screen is displayed.

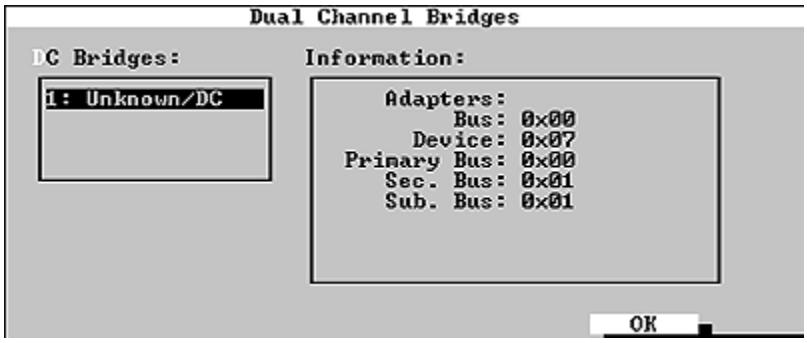

Figure 12: Dual Channel Bridges Screen

3. Select an adapter in the Adapters box. Adapter information is displayed in the Information box.
4. Select **OK** to close the screen.

View VPD Information

1. Select the **Adapter** menu.

Figure 13: Adapter Menu, VPD Selected

2. Press **<V>**. The Adapters VPD screen is displayed.

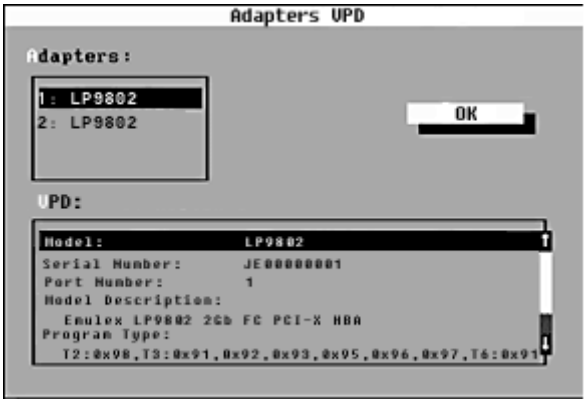

Figure 14: Adapter VPD Screen

3. Select an adapter in the Adapters box. The adapter's VPD information is displayed in the VPD box.
4. Select **OK** to close the screen.

View PCI Information

1. Select the **Info** menu.

Figure 15: Info Menu, PCI Info Selected

2. Press **<P>**. The PCI Parameters screen is displayed.

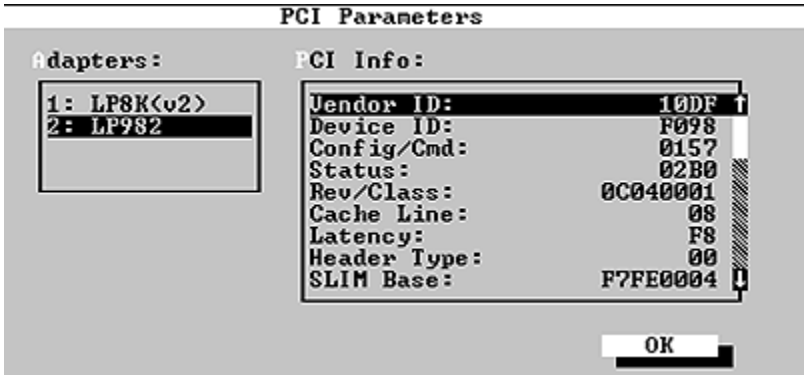

Figure 16: PCI Parameters Screen

3. Select an adapter in the Adapters box. PCI information is displayed in the PCI Info box.
4. Select **OK** to close the screen.

View Revision Information

1. Select the **Info** menu.

Figure 17: Info Menu, Revisions Selected

2. Press **<R>**. The Revisions Info screen is displayed.

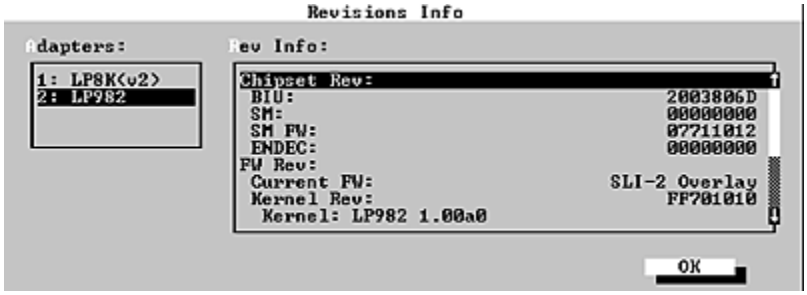

Figure 18: Revisions Info Screen

3. Select an adapter in the Adapters box. Revision information is displayed in the Rev Info box.
4. Select **OK** to close the screen.

View Service Parameters

1. Select the **Info** menu.

Figure 19: Info Menu, Service Parameters Selected

2. Press **<S>**. The Service Parameters screen is displayed.

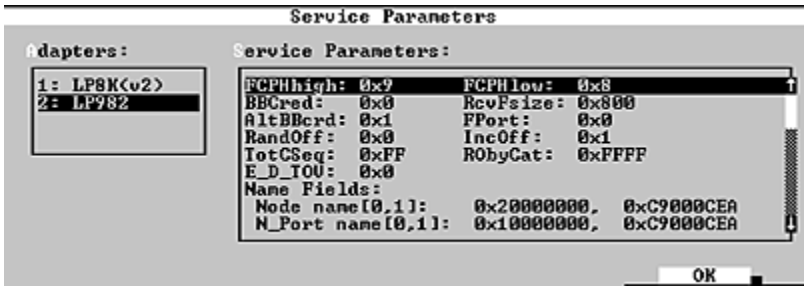

Figure 20: Service Parameters Screen

3. Select an adapter in the Adapters box. Service parameters are displayed in the Service Parameters box.
4. Select **OK** to close the screen.

View Counter Information

1. Select the **Info** menu.

Figure 21: Info Menu, Counters Selected

2. Press **<C>** The Counters Display screen appears.

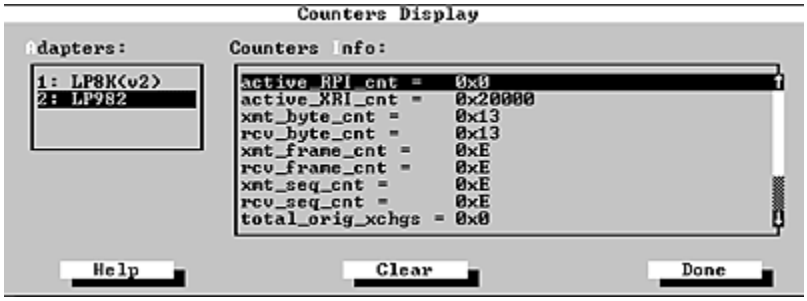

Figure 22: Counters Display Screen

3. Select an adapter in the Adapters box. Counter information is displayed in the Counters Info box.
4. To set the counters to zero for all fields, select **Clear**.
5. Select **Done** to close the screen.

View Link Status Information

1. Select the **Info** menu.

Figure 23: Info Menu, Link Status Selected

2. Press **<L>**. The Link Status screen is displayed.

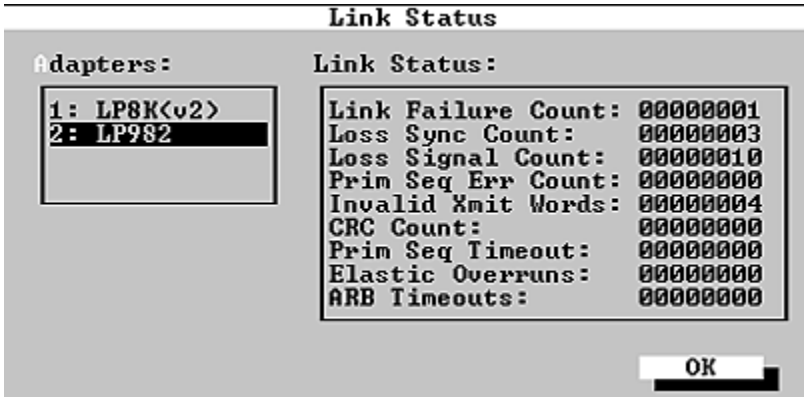

Figure 24: Link Status Screen

3. Select an adapter in the Adapters box. Link status information is displayed in the Link Status box.
4. Select **OK** to close the screen.

View Link Attention Data

5. Select the **Info** menu.

Figure 25: Info Menu

6. Press **<A>**. The Link Attention Data screen is displayed.

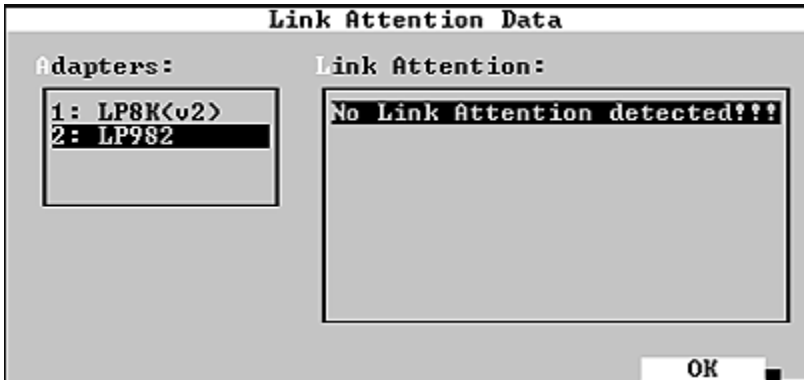

Figure 26: The Link Attention Data Screen

7. Select an adapter in the Adapters box. Link attention data is displayed in the Link Attention box.
8. Select **OK** to close the screen.

View Wakeup Parameters

1. Select the **Flash** menu.

Figure 27: Flash Menu, Wakeup Parms Selected

2. Press **<W>**. The Wakeup Parameters screen is displayed.

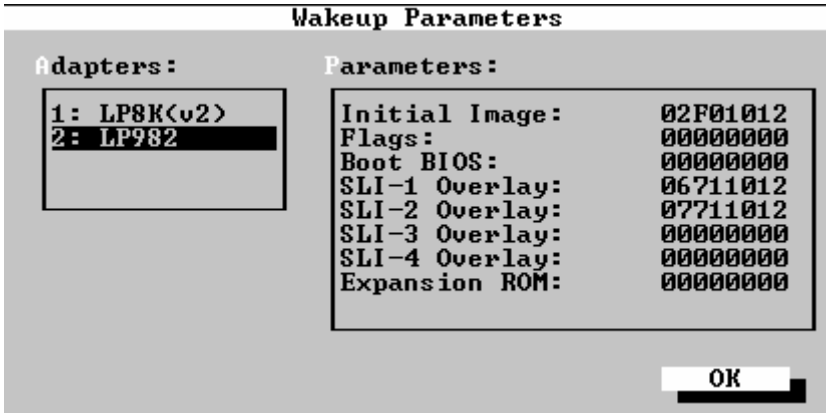

Figure 28: Wakeup Parameters Screen

3. Select an adapter in the Adapters box. Wakeup parameters are displayed in the Parameters box.
4. Select **OK** to close the screen.

View Service Level Interface Memory (SLIM)

1. Select the **Debug** menu.

Figure 29: Debug Menu, SLIM Selected

2. Press **<S>**. The SLIM Memory screen is displayed.

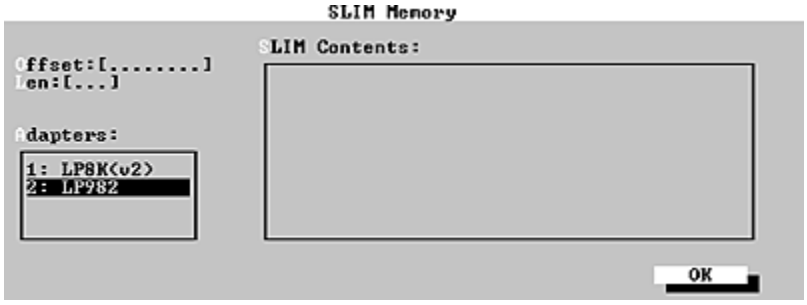

Figure 30: SLIM Memory Screen

3. Select an adapter in the Adapters box.
4. Enter values to specify how SLIM is to be displayed:
   - The Offset field represents the starting byte at which information is displayed. An offset of 0 means information is displayed at the beginning of SLIM. This value is displayed based on your last session. You can change this value.
   - The Length field represents the number of bits that are displayed.

   The contents of the SLIM are displayed in the SLIM Contents box.
5. Select **OK** to close the screen.

View Mailbox

1. Select the **Debug** menu.

Figure 31: Debug Menu, Mailbox Selected

2. Press **<M>**. The Read Mailbox screen is displayed.

Figure 32: Read Mailbox Screen

3. Select an adapter in the Adapter box. The contents of the mailbox are displayed in the Mailbox Contents box.
4. Select **OK** to close the screen.

View the Registers

1. Select the **Debug** menu.

Figure 33: Debug Menu, Registers Selected

2. Press **<R>**. The Registers screen is displayed.

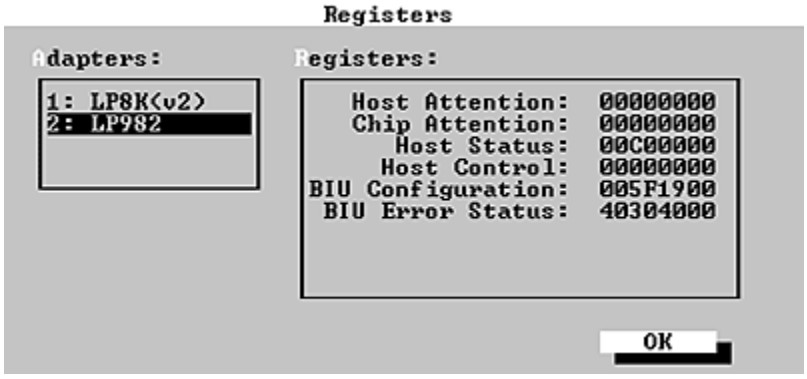

Figure 34: Registers Screen

Select an adapter in the Adapters box. Register information is displayed in the Registers box.

- Host attention corresponds to 31 bits that describe information that the adapter provides to the host. In Figure 34 the adapter informs the host when a current mailbox command is finished.
- Chip attention (also known as port attention) corresponds to how the utility gets the adapter's attention. For the example, the utility informs the adapter when a pending Mailbox Attention command has an error.
- Host status corresponds to errors and events.
- Host control corresponds to the driver utility.

3. Select **OK** to close the screen.

Update Boot Code

Change the Boot Code State

This procedure allows you to enable or disable boot code (if x86 BootBIOS or OpenBoot is installed).

1. Select the **Flash** menu.

Figure 35: Flash Menu, Boot Bios Selected

2. Press **<B>**. The Change Boot BIOS State screen is displayed.

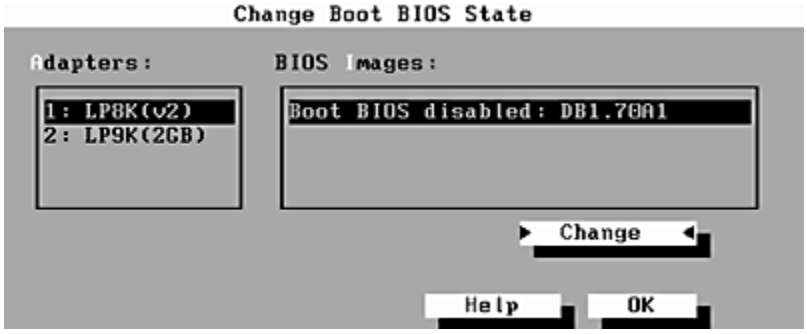

Figure 36: Boot Code Disabled

3. Select an adapter in the Adapters box.
4. Select the boot code image in the BIOS Images list.
5. Select **Change.** The boot code is enabled or disabled for the selected adapter. In the following example, the boot code is enabled.

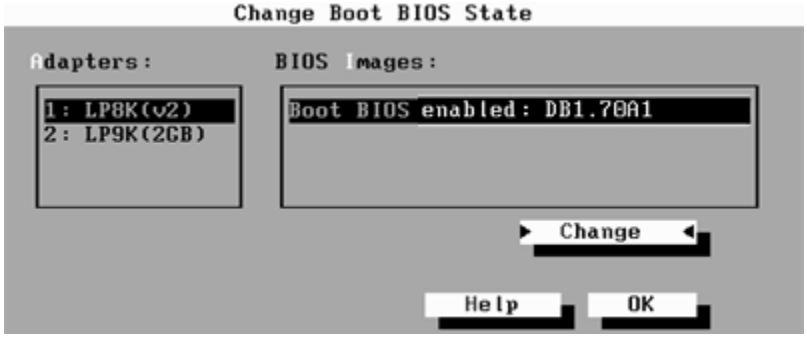

Figure 37: Boot BIOS Enabled

6. Select **OK** to close the screen.

Note: The Change Boot BIOS State screen is used to enable or disable the boot code. For x86 BootBIOS, you must also enable the adapter to boot from the SAN using the BIOS utility.

Load and Update Firmware, Test and Boot Code Files

You can load and update files and images to one or more HBAs using the menu bar. You can also load and update files using the utility that was loaded with the driver.

1. Select the **Flash** menu.

Figure 38: Flash Menu, Download Selected

2. Press **<D>**. The Download Image screen is displayed.

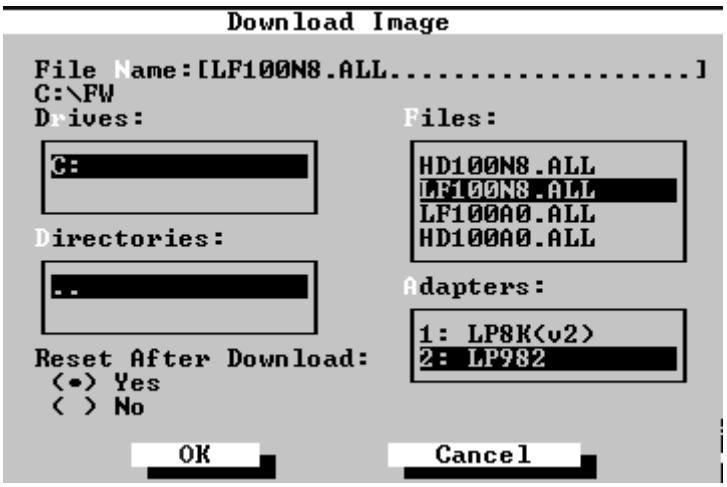

Figure 39: Download Image Screen

3. Select the location of the image file and the adapter to be updated.
4. Select the Reset After Download setting.
   - Defaults to Yes. If you are updating a single file to one adapter, keep the default setting.
   - If you are updating several HBAs or several files to one adapter, select No.
5. Select **OK**. The screen closes and the load process begins. Various steps of the download process are displayed. When the download is finished, the results of the download (success or error) are displayed.

View and Maintain the Flash Load List

The flash load list enables you to view or delete the images that have been installed on the adapter.

To view the flash load list:

1. Select the **Flash** menu.

Figure 40: Flash Menu, Display Flash Selected

2. Press **<F>**. The Flash Load List screen is displayed.

Figure 41: Flash Load List Screen

3. Select the adapter. The flash load list Information is displayed for the selected adapter.
4. Select **Done** to close the screen.

To delete an image from the adapter:

1. Display the flash load list and select an adapter.
2. Select the image you want to delete.
3. Select **Delete**.

   A warning screen is displayed. On the warning screen, select **Delete** to delete the file, or **Cancel** to close the warning screen and cancel the delete.The image selected in the Images box is deleted.
4. Select **Done** to close the screen.

View and Maintain Configuration Regions

View Configuration Region Information

1. Select the **Flash** menu.

Figure 42: Flash Menu, Configuration Regions Selected

2. Press **<C>**. The Configuration Regions screen is displayed.

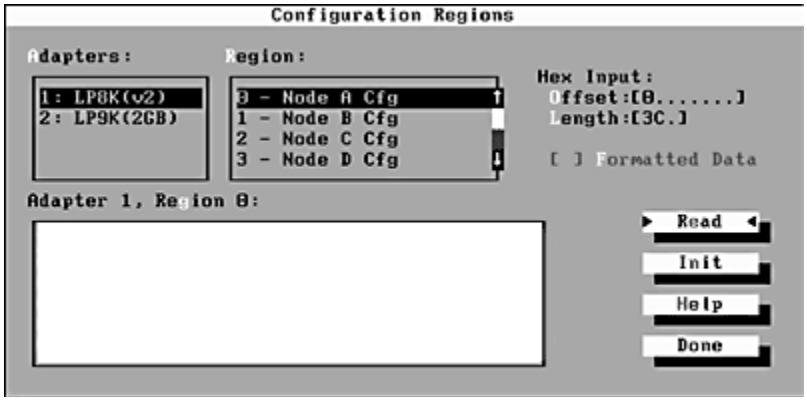

Figure 43: Configuration Regions Screen

3. Select the adapter and corresponding region.

   Region Specifics -

   - Region 1 represents Node A configuration
   - Region 2 represents Node B configuration
   - Region 3 represents Node C configuration
   - Region 4 represents the wakeup parameters
   - Region 5 represents the default PCI configuration
   - Region 6 represents the download 1 (on the Soft Jumpers screen, PCI Alt-1)
   - Region 7 represents the download 2 (on the Soft Jumpers screen, PCI Alt-2)

   Select **Cleanup** to clear the first 4 bytes of the specified configuration region in flash so that this region can be programmed.

4. Enter values in the Hex Input area to specify the configuration region:

   - The Offset field represents the starting byte at which information is displayed. An offset of 0 means information is displayed at the beginning of the region. The value displayed is based on your last session. You can change this value.
   - The Length field represents the number of bits that are displayed.

   For example, if you set the Offset value to 100 and the Length field to 100, information for the selected region is displayed beginning at byte 100 and continuing through the next 100 bytes.

5. Select **Read**. Region information is displayed in the Region Data box.

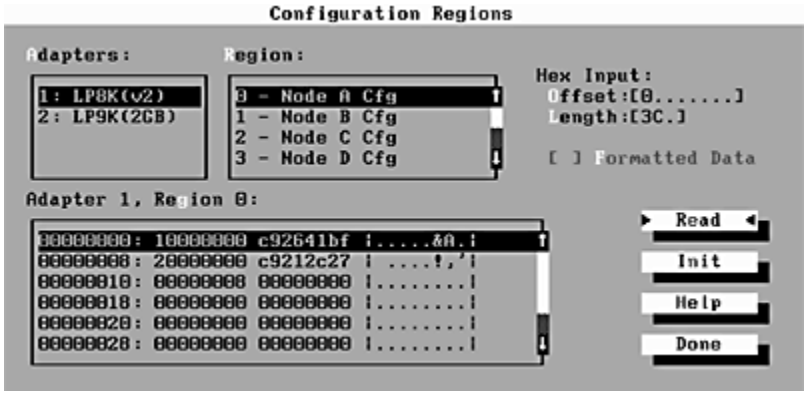

Figure 44: Configuration Regions Screen with Information

6. Select **Done** to close the screen, or proceed to initializing or cleaning a region.

Initialize a Region or Cleaning a Configuration

1. After you have viewed configuration region information and determined that you want to initialize a region or clean a configuration, make sure the adapter and region are selected in the Configuration Regions screen.

   On the Configuration Regions screen, select **Init**. The Init Region screen is displayed.

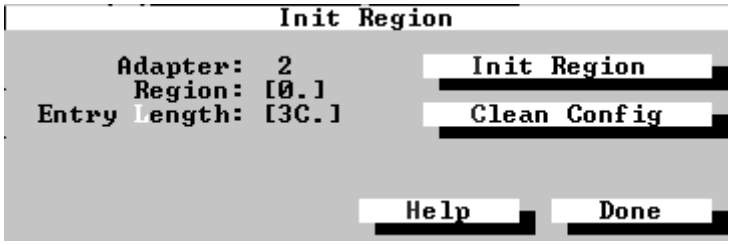

Figure 45: Init Region Screen

2. To initialize, select **Init Region**.
3. After the configuration is initialized, you can clean the configuration. Select **Clean Config**.
4. Select **Done** to close the screen.

Set an Adapter to Use Soft Jumpers

You can change the state of the adapter soft jumpers, which can be used in place of the physical jumpers on the adapter.

1. Select the **Flash** menu.

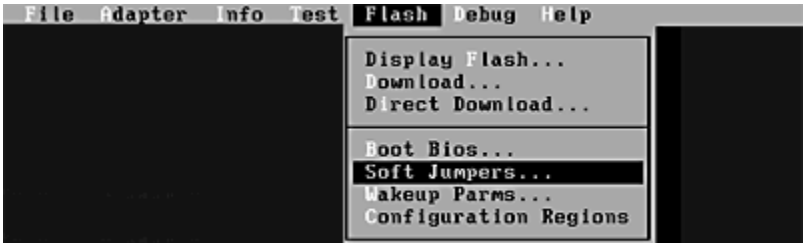

Figure 46: Flash Menu, Soft Jumpers Selected

2. Press **<J>**. The Soft Jumpers screen is displayed.

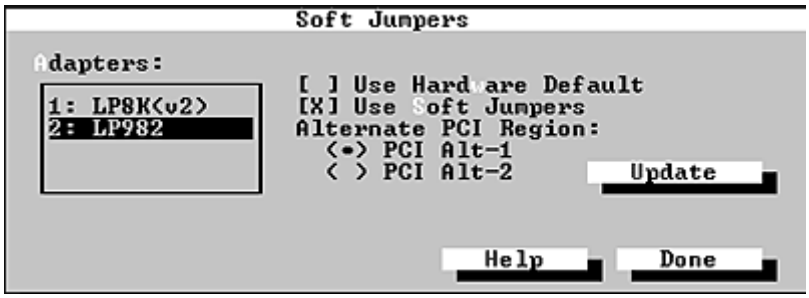

Figure 47: Soft Jumpers Screen

3. Specify the adapter.
4. Specify Hardware Default or Soft Jumpers.

   To select or clear an option, tab to it and press the spacebar.

   If you select soft jumpers, you must select an alternate PCI region.

   - PCI Alt-1 represents Download 1 and Region 6 on the Configuration Regions screen.
   - PCI Alt-2 represents Download 2 and Region 7 on the Configuration Regions screen.
5. Select **Update**, then select **Done**. The information is updated on the adapter and the screen is closed.

Use Script Files

Create or Edit Script Files

You can create script files to download images and run scripts from one file. You can download firmware and boot code images from the Input Script screen.

Use a text editor to create or edit scripts. Script files follow these rules:

- You can run scripts on one adapter in the system or on all HBAs in the system.
- *n* represents the number of HBAs and may equal either a numeric value or all.
- *r* represents the repeat count. You can cause the series of all commands in the script file to repeat indefinitely by adding the repeat command as the last line of the script file. If you include this command, press **<s>** to stop a running script at any time.
- *o* represents the action option if an error is encountered. 1= stop the test, 2= repeat the test and 3= ignore the error.

For your convenience, this sample script (samplescript.txt) is included in the same directory as the lp6dutil application:

```
download a=lp8000 i=c:\temp\dd381a3.awc;
reset n=1 s=0
;reset n=2 s=0
;reset n=all s=0
;pciloopback n=1 r=10 o=1
;pciloopback n=2 r=10 o=2
pciloopback n=all r=50 o=3
extloopback n=all r=40 o=3
```

Copy this sample script and modify it to fit your needs. Commented lines begin with a semicolon and are not executed.

Note: All script files end with .txt.

Run Script Files from the Menu Bar

Use the Select Input Script screen to select and run script files. The results are logged in an output file named lp6dlog.txt and are displayed in the Test Logfile screen.

1. Select the **File** menu.

Figure 48: File Menu, Open Input Script Selected

2. Press **<O>**. The Select Input Script screen is displayed.

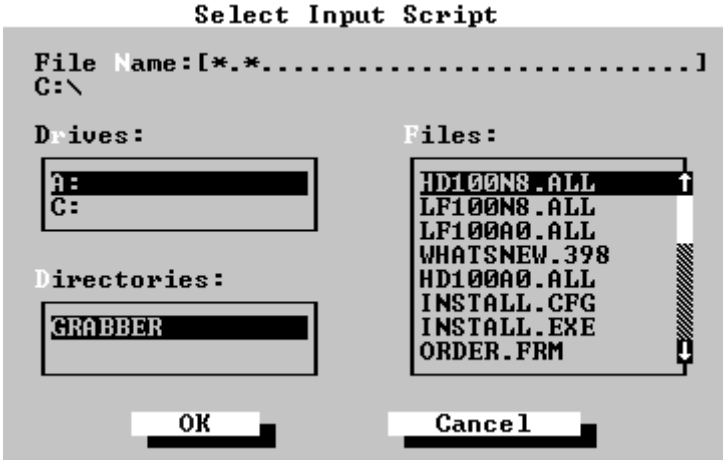

Figure 49: Select Input Script Screen

3. Select the location of the script file.
4. Select **OK**.
5. The Select Input Script screen closes. All scripts listed in the file are run. Results are logged in the output file.

   To close the screen without selecting an input script, select **Cancel**.

Run Script Files Using the Command Line

Use the @ command to run scripts files. In the following example, the script1.txt script residing on the root directory of the A drive would run:

```
@a:\script1.txt
```

Note: You can view results (log files) with a text editor by opening the lp6dlog.txt file (always saved in c:\lp6dutil\lp6dlog.txt), or by using the menu bar. You can change the name and location of the log file using the command line.

View the Log File

After you have run input scripts, view the test results in the Test Logfile screen. These test results are logged in an output file named lp6dlog.txt. This file is automatically placed in the c:\lp6dutil directory. The system appends the lp6dlog.txt file as tests are run and results are logged.

To save the test results and ensure that future test results are logged, copy and rename the lp6dlog.txt file. The lp6dlog.txt file has a limited scrolling buffer size of approximately 12 screens. Copying and renaming the .txt file helps you to avoid accumulating a large lp6dlog.txt file.

1. Select the **File** menu.

Figure 50: File Menu, Read Logfile Selected

2. Press **<L>**. The Test Logfile screen is displayed. Figure 51 below contains tips for using the log file, rather than an example of the log file itself.

Test Logfile
eneral Information:
he test logfile has been pre-selected as lp6dlog.txt.
It resides in directory c:\lp6dutil created by this progran.
Times and dates of test starts and stops are recorded.
Test results are logged along with errors if present.
Test results are always written to the end of lp6dlog.txt.
To avoid huge lp6dlog.txt file, you might want to rename it
and save it at appropriate time.
OK

Figure 51: Test Logfile Screen

   The most recent test results are displayed at the bottom of the screen. Use the up and down arrows on your keyboard to scroll through the test results.

3. Select **OK**. The screen closes.

Note: You can always view test results using a Text Editor. After you copy and rename the log file however, you cannot view the file in the Test Logfile screen. Renamed log files must be viewed using a text editor.

Run Diagnostic Tests

Select HBAs to Test

1. Select the **Test** menu.

Figure 52: Test Menu, Select Adapters Selected

2. Press **<A>**. The Select Adapters screen is displayed.

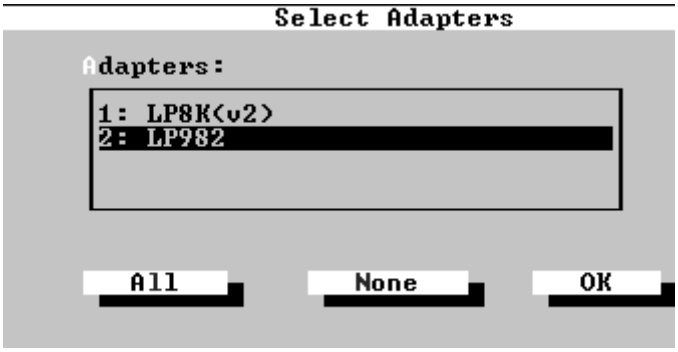

Figure 53: Select Adapters Screen

3. Select the HBAs you want to test.
   - To select one adapter, press the up and down arrow keys.
   - To select all HBAs, select **All**.

   To close the screen without selecting any HBAs, select **None.**
4. Select **OK**. The HBAs are selected and the screen is closed.

Select Tests

Note: Internal loopback and SRAM tests are not supported for the LP1005DC-CM2 adapter.

1. Select the **Test** menu.

Figure 54: Test Menu, Select Tests Selected

2. Press **<T>**. The Select Tests screen is displayed.

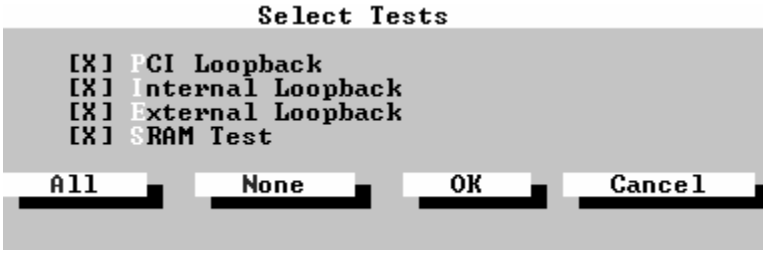

Figure 55: Select Tests Screen

3. Select the tests you want to perform on the HBAs.
   - To move through the test list, press **<Tab>**.
   - To select a test, move to the [ ] field for the test and press the spacebar or **<Enter>**.
   - To select all tests within a box, select **All**.
   - To clear all tests (de-select all tests), select **None**.

   To close the screen without selecting any tests, select **Cancel**.
4. To confirm your options, select **OK**. Tests are now selected and the screen is closed.

Configure Tests

Note: Internal loopback and SRAM tests are not supported for the LP1005DC-CM2 adapter.

1. Select the **Test** menu.

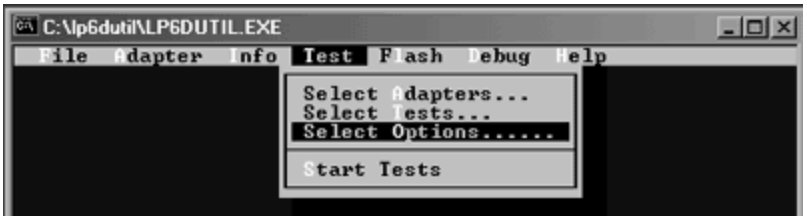

Figure 56: Test Menu, Select Options Selected

2. Press **<O>**. The Configure Test Parameters screen is displayed.

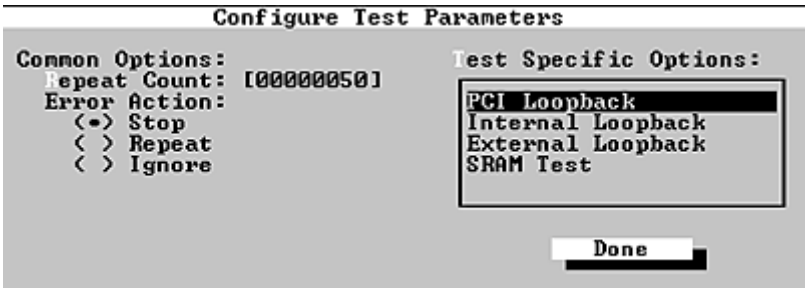

Figure 57: Configure Test Parameters Screen

3. Select the test to configure. Press **<Tab>** to select the Test Specific Options box. Press the up and down arrows keys to select the test you want to configure.

4. If you want the selected test to be repeated if an error is encountered, specify a value in the Repeat Count field. The repeat count defaults to the last value entered in this field. To change this value, tab to the Repeat Count field and press **<Backspace>** to clear the necessary fields. Enter the new value. To repeat the tests indefinitely, set the count to 0.
5. To change the error action, tab to the Error Action list. Press the up and down arrow keys to select an error action:
   - Stop - stops the test if an error is encountered. This is the default error action.
   - Repeat - runs the failed test again.
   - Ignore - ignores the error.
6. To confirm your options, select **Done**.

   To cancel out of this screen, press **<Esc>**.

Start Tests

1. After you have configured the tests, select **Start Tests** from the **Test** menu.

Figure 58: Test Menu, Start Tests Selected

2. The Test Results screen is displayed.

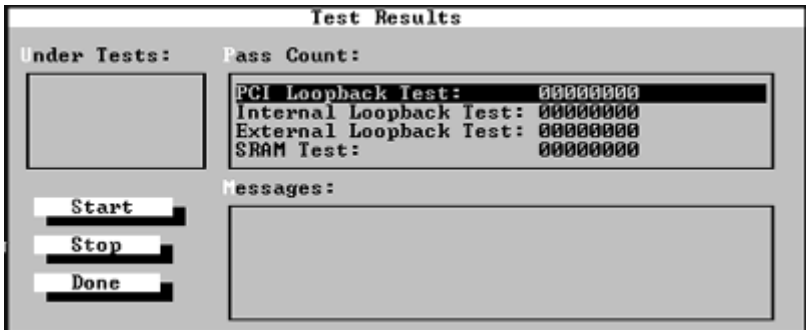

Figure 59: Test Results Screen

3. Select **Start**. All tests are run on all HBAs in the Under Tests box. As applicable, test result messages are displayed in the Messages box.

   To interrupt a test while it is running, select **Stop**

   When all tests are finished, select **Done**. The screen is closed.

Set or Reset Status Word Mask

The Set/Reset Status Word Bits screen allows you to test the adapter's behavior in various modes.

1. Select the **Adapter** menu.

Figure 60: Adapter Menu, Set Status Word Selected

2. Press **S**. The Set/Reset Status Word Bits screen is displayed.

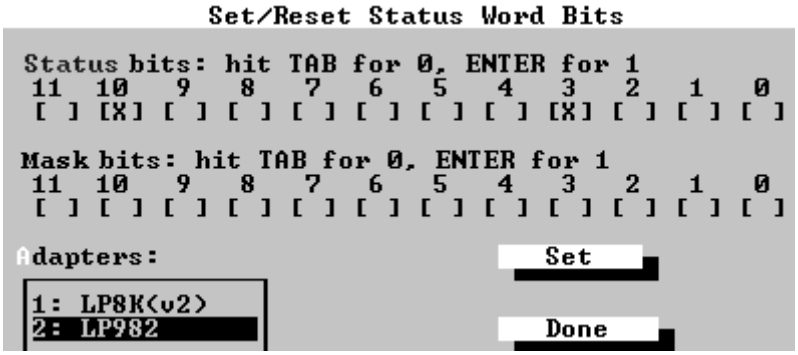
Set/Reset Status Word Bits
Status bits: hit TAB for 0, ENTER for 1
11 10 9 8 7 6 5 4 3 2 1 0
[ ] [X] [ ] [ ] [ ] [ ] [ ] [ ] [X] [ ] [ ] [ ]
Mask bits: hit TAB for 0, ENTER for 1
11 10 9 8 7 6 5 4 3 2 1 0
[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
Adapters:
1: LP8K(v2)
2: LP982
Set
Done

Figure 61: Set/Reset Status Word Bits Screen

3. Select the adapter to test. The default is adapter #1.
4. Select the status and mask bits. Tab to the bit and press the spacebar to select or clear it. To close the screen without changes, select **Done**.
5. Select **Set**, then select **Done**. The bits you have selected are set and the screen is closed.

Debug Tasks

Dump Memory

1. Select the **Debug** menu.

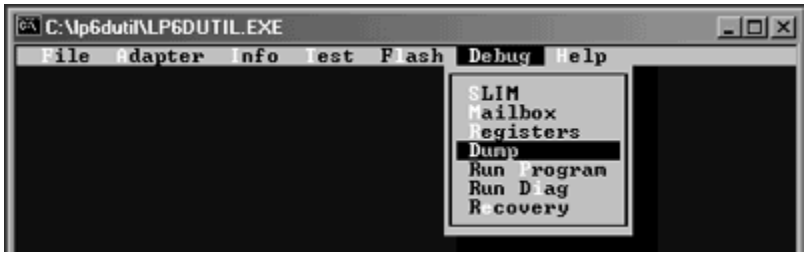

Figure 62: Debug Menu, Dump Selected

2. Press **<D>**. A warning screen is displayed.

Warning!
Reading some memory locations from the adapter can cause the system to hang or reset. This feature should only be used to read known safe memory locations.
Cancel
OK

Figure 63: Dump Memory Warning Screen

3. To continue with the memory dump, on the Warning screen select **OK.** To close the Warning screen without dumping memory, select **Cancel**.
4. The Dump Memory screen is displayed.

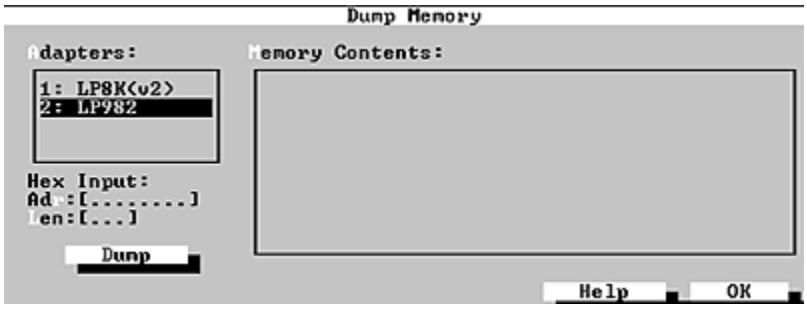

Figure 64: Dump Memory Screen

5. Select an adapter in the Adapters box.
6. Enter values in the Hex Input area to set up the memory dump:
    - The Adr field represents the starting address.
    - The Len field represents the number of bytes.
7. Select **Dump**. The memory contents are displayed.
8. Select **OK** to close the screen.

Run Program

The Run Program screen allows you to run firmware test programs, if the firmware test images have been downloaded. The test results are also displayed in this screen.

1. Select the **Debug** menu.

Figure 65: Debug Menu, Run Program Selected

2. Press **<P>**. The Run Program screen is displayed.

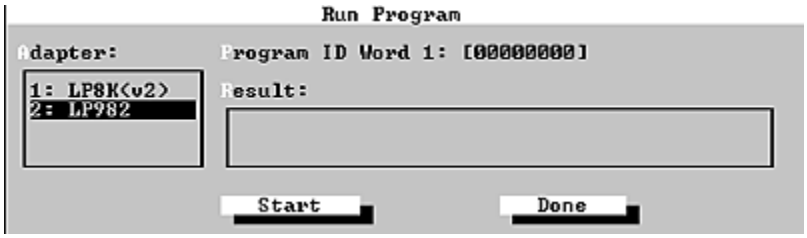

Figure 66: Run Program Screen

3. Select an adapter in the Adapter box.
4. Tab to the Program ID Word 1 field. Press **<Backspace>** to clear the necessary fields. Enter the firmware test program name.
5. Select **Start**. Test results display in the Result box.
6. Select **Done** to close the screen.

Run Diagnostics

- Four standard tests can be run using the Test menu (see “Run Diagnostics” on page 29). The Run Diags screen allows you to run customized tests that must be downloaded to the adapter. Instructions for creating customized tests are beyond the scope of this manual.
- To download customized tests, use the same procedure for downloading other files and images (see “Load and Update Firmware, Test and Boot Code Files” on page 17).

The Run Diags screen allows you to run up to five tests at one time.

1. After starting lp6dutil, Select the **Debug** menu.

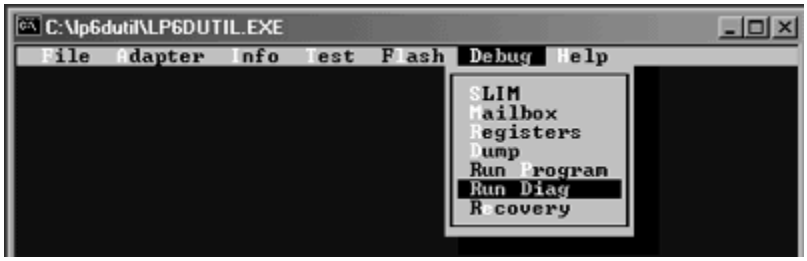

Figure 67: Debug Menu, Run Diag Selected

2. Press **<I>**. The Run Diags screen is displayed.

Figure 68: Run Diags Screen

3. Select an adapter in the Adapter box.
4. Specify values in the Select Common Parameters area. To change a value, tab to the field, and press **<Backspace>** to clear the field.
    - Repeat Count -
        - 0 = Test loops indefinitely until the test is stopped manually.
        - X = Enter any other number to indicate the number of times you want tests to be repeated. If more than one test is specified, you cannot stop a test until all tests are completed.
    - Display Option - A binary code that determines the message information that is printed in ASCII format to a serial port.
        - 00 = No information is printed.
        - 1F = All information is printed.
        - 03 = Minimal information is printed.
    - Request Type -
        - 1 = Only one test can be run.
        - 2 = Multiple tests (up to five) can be run.
    - Entry Count - The number of tests to be run.
    - Error Action -
        - Stop = Test is stopped if an error is encountered.
        - Ignore = Errors are ignored during testing.
        - Repeat = If an error is encountered, the test is rerun.
        - Loop = If an error is encountered, all tests are rerun.
    - Select Parameters for - This field allows you to access a Parameters Selection screen for the selected test. If multiple tests are downloaded, a down arrow is displayed on the right side of this box. A separate Parameters Selection screen is displayed for each test.

Parameters Selection screen -

a. Enter values in this screen for the following custom test parameters:
   - Version
   - Program ID
   - Revision Compatibility
   - Subtest 3
   - Subtest 2
   - Subtest 1
   - Subtest Selection

b. Select **OK** on the Parameters Selection screen to set up the test. The screen is closed.

5. On the Run Diags screen, select **Start**. Results are displayed in the Test Results box. If multiple tests have run, a vertical scroll bar is displayed on the right side of the box. This indicates that the box contains additional test results that exceed the display capabilities of the box. Click on the scroll bar to view additional test results.
6. Select **Done** to close the screen.

Try to Recover an Adapter

If the adapter cannot be reset, the Try to Recover screen allows you to attempt recovery.

1. Select the **Debug** menu.

Figure 69: Debug Menu, Recovery Selected

2. Press **<E>**. All HBAs that are active in the system are displayed in the Try to Recover screen:

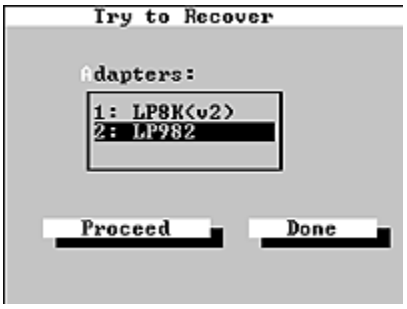

Figure 70: Try To Recover Screen

3. Select an adapter to recover.
4. Select **Proceed** to attempt recovery or **Done** to close the screen.